

Appendix table 4-46

## Share of business expenditures for R&amp;D, by industry and selected country/economy: 2007–10

(Percent)

Industry	ISIC	Czech Republic										South		
		Australia 2010	Austria 2007	Belgium 2007	2009	France 2007	Germany 2008	Greece 2007	Hungary 2008	Israel 2010	Italy 2010	Japan 2009	Korea 2008	Mexico 2007
Total business enterprise		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Manufacturing	15-37	26.6	69.8	68.1	65.8	83.6	89.0	46.0	73.1	32.9	73.0	87.1	88.6	69.3
Food products, beverages, and tobacco	15-16	2.7	0.6	2.1	0.9	2.1	0.6	2.5	1.2	NA	1.6	2.0	1.3	10.9
Textiles, textile products, leather, and footwear	17-19	0.2	0.7	1.2	0.8	0.7	0.4	0.5	0.0	NA	3.7	1.0	0.6	4.7
Wood, paper, printing, and publishing	20-22	1.4	0.9	0.5	0.1	0.4	0.5	0.6	0.5	NA	0.6	0.7	0.2	0.7
Chemical, rubber, plastics, and fuel products	23-25	5.4	11.2	34.7	8.2	24.0	16.6	15.7	41.0	NA	11.6	19.0	9.6	18.7
Coke, refined petroleum products, and nuclear fuel	23	0.6	0.2	0.4	0.0	0.9	0.2	0.0	2.4	NA	0.1	0.4	0.4	2.3
Chemicals and chemical products	24	4.3	8.7	31.7	6.4	20.0	14.4	13.9	37.7	NA	9.3	16.3	7.4	13.8
Chemicals excluding pharmaceuticals	24 (minus 2423)	1.9	2.9	7.0	2.8	5.7	7.0	10.2	2.2	NA	3.4	6.3	5.0	7.9
Pharmaceuticals	2423	2.4	5.8	24.7	3.6	14.3	7.4	3.7	35.6	NA	5.9	10.0	2.4	5.9
Rubber and plastics products	25	0.5	2.2	2.6	1.8	3.1	2.0	1.7	0.9	NA	2.1	2.3	1.7	2.6
Other nonmetallic mineral products	26	0.7	1.5	1.1	1.0	1.1	0.6	2.2	0.3	NA	0.8	1.2	0.6	2.2
Basic metals	27	3.8	2.4	2.2	0.6	1.2	0.9	1.1	0.5	NA	0.9	2.5	2.0	6.6
Fabricated metal products (excluding machinery and equipment)	28	1.0	2.1	1.5	1.7	1.0	1.3	7.0	0.4	NA	1.8	0.6	0.9	7.2
Machinery and equipment, instruments, and transportation equipment	29-35	11.2	48.9	24.5	52.0	52.2	67.7	16.3	29.0	NA	51.1	59.0	73.1	18.0
Machinery and equipment, nec	29	1.9	11.4	5.8	8.5	4.6	10.9	1.2	5.3	NA	12.9	9.2	6.2	2.3
Computers, office and accounting machines	30	0.3	0.4	0.6	0.2	0.7	1.5	0.0	NA	NA	0.4	3.7	1.0	0.8
Electrical machinery and apparatus, nec	31	0.5	13.4	4.1	4.2	4.4	3.1	0.4	3.3	NA	2.4	8.0	2.2	3.2
Communication, TV, and radio equipment	32	1.7	9.6	7.7	2.8	10.4	7.1	12.9	6.2	NA	7.5	16.8	45.7	1.5
Instruments, watches, and clocks	33	2.2	3.3	2.5	6.2	6.3	7.1	1.0	2.5	NA	5.4	5.0	2.6	0.1
Motor vehicles	34	3.4	8.3	1.9	24.7	14.0	32.8	0.8	11.5	NA	11.0	15.6	13.2	10.0
Other transportation equipment	35	1.2	2.5	2.0	5.4	11.9	5.1	0.1	NA	NA	11.4	0.7	2.1	0.2
Building and repairing ships and boats	351	0.3	0.0	0.0	0.0	0.4	NA	NA	NA	NA	0.5	0.1	1.8	0.0
Aircraft and spacecraft	353	0.3	0.3	2.0	1.7	10.8	NA	NA	NA	NA	9.9	0.5	0.1	0.0
Railroad and other transportation equipment, nec	352+359	0.6	2.2	0.0	3.7	0.7	NA	NA	NA	NA	1.0	0.2	0.2	0.2
Furniture, manufacturing, nec	36	0.2	1.6	0.3	0.5	0.8	0.3	0.0	0.2	NA	1.0	1.0	0.3	0.3
Recycling	37	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	NA	0.0	NA	0.1	0.0
Electricity, gas, and water	40-41	1.8	0.2	0.2	0.2	1.6	0.3	0.5	0.2	1.8	0.8	0.5	1.0	0.4
Construction	45	5.2	0.4	1.3	1.2	0.4	0.1	0.1	0.3	NA	0.9	1.0	2.5	0.2
Services	50-99	42.3	29.4	29.8	32.2	12.3	10.3	52.7	24.6	65.2	23.7	11.2	7.9	29.5
Wholesale and retail trade, repairs	50-52	6.3	4.6	1.7	2.6	NA	NA	2.3	7.4	NA	1.6	0.4	0.5	0.0
Hotels and restaurants	55	0.2	0.0	0.0	0.0	NA	NA	0.0	0.0	NA	0.0	NA	0.0	0.0
Transport, storage, and communication	60-64	5.2	1.1	3.9	1.3	3.3	0.5	0.7	0.4	NA	8.5	2.6	1.7	1.4
Financial intermediation	65-67	12.2	0.2	1.9	1.5	NA	NA	0.0	0.2	0.9	1.6	0.0	0.0	4.1
Real estate, renting, and business activities	70-74	16.9	23.3	21.4	24.8	8.8	8.9	49.3	14.0	64.3	11.2	8.2	5.5	2.3
Computer and related activities	72	6.3	5.3	4.9	10.3	7.0	NA	41.1	6.8	31.7	2.2	2.1	3.4	0.8
Software consultancy and supply	722	6.0	4.1	2.9	7.8	4.8	NA	29.9	2.4	NA	1.9	NA	2.8	0.8
Other computer and related activities, nec	72 (minus 722)	0.3	1.2	2.0	2.4	2.2	NA	11.1	4.4	NA	0.3	NA	0.6	0.0
R&D	73	4.6	9.4	9.7	9.7	0.2	2.7	3.4	0.3	32.7	7.0	5.6	0.4	1.5
Other business activities	74	6.0	8.6	6.8	4.7	1.7	2.6	4.9	6.5	NA	2.0	0.5	1.6	0.1
Community, social, and personal services	75-99	1.6	0.2	0.8	2.1	0.2	NA	0.3	2.6	NA	0.7	NA	0.1	21.6
All other industries	-	24.1	0.2	0.6	0.6	2.1	0.3	0.7	1.8	NA	1.6	0.2	0.0	0.6

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## Share of business expenditures for R&amp;D, by industry and selected country/economy: 2007–10

(Percent)

Industry	ISIC	New Zealand		Slovak Republic		United Kingdom		United States <sup>a</sup>		Russian Federation		South		
		2007	2008	2008	2009	2008	2008	2008	2009	China	2009	Singapore	Africa	Taiwan
Total business enterprise		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Manufacturing	15-37	48.4	43.2	34.6	67.3	85.9	64.1	73.8	67.1	84.0	12.0	73.2	38.9	92.4
Food products, beverages, and tobacco	15-16	12.8	4.2	1.9	0.8	0.4	2.0	1.9	1.5	3.6	0.0	0.5	2.0	0.7
Textiles, textile products, leather, and footwear	17-19	0.8	0.3	1.5	0.0	1.2	1.8	0.1	0.3	2.5	0.0	0.0	0.1	1.5
Wood, paper, printing, and publishing	20-22	0.3	1.6	2.3	0.0	1.2	0.4	0.3	NA	1.4	0.0	0.0	1.4	0.3
Chemical, rubber, plastics, and fuel products	23-25	10.8	7.7	NA	17.7	40.0	7.1	33.0	NA	13.2	0.7	2.5	14.3	6.1
Coke, refined petroleum products, and nuclear fuel	23	NA	0.0	NA	NA	0.0	0.0	1.4	NA	0.9	0.0	0.0	NA	0.4
Chemicals and chemical products	24	NA	7.3	8.3	8.1	38.3	5.6	31.1	18.5	10.3	0.6	2.0	NA	4.6
Chemicals excluding pharmaceuticals	24 (minus 2423)	NA	5.0	1.3	NA	3.6	NA	3.9	2.6	7.1	0.5	1.4	NA	3.2
Pharmaceuticals	2423	NA	2.2	6.9	NA	34.7	NA	27.2	15.9	3.2	0.1	0.6	NA	1.4
Rubber and plastics products	25	NA	0.4	NA	9.6	1.7	1.6	0.5	0.9	2.0	0.0	0.4	NA	1.1
Other nonmetallic mineral products	26	0.4	0.4	1.8	0.6	1.2	1.5	0.3	0.5	1.9	0.0	0.1	1.3	0.1
Basic metals	27	0.2	2.0	1.1	3.2	1.8	0.6	0.4	0.2	10.0	0.2	0.2	3.0	1.0
Fabricated metal products (excluding machinery and equipment)	28	2.1	1.1	1.7	2.6	3.3	0.9	0.5	0.9	1.6	0.0	3.0	4.1	0.6
Machinery and equipment, instruments, and transportation equipment	29-35	19.3	25.2	13.0	42.4	36.3	49.1	37.1	NA	49.2	10.8	66.9	12.0	81.6
Machinery and equipment, nec	29	NA	9.8	2.4	5.0	8.9	10.4	5.2	3.5	12.3	1.5	2.4	NA	2.8
Computers, office, and accounting machines	30	NA	0.0	0.2	0.0	0.5	0.0	0.5	3.3	NA	0.3	NA	NA	16.2
Electrical machinery and apparatus, nec	31	NA	2.5	1.7	6.1	9.6	2.0	3.6	1.1	9.4	0.7	0.4	1.6	3.1
Communication, TV, and radio equipment	32	NA	4.2	3.7	5.2	8.5	9.2	4.2	12.5	NA	1.9	59.4	3.6	53.1
Instruments, watches, and clocks	33	NA	4.6	0.4	1.4	4.4	0.7	3.7	NA	NA	1.2	2.0	1.5	3.0
Motor vehicles	34	NA	1.3	4.3	NA	3.8	23.5	7.9	4.6	NA	0.5	1.6	5.4	1.7
Other transportation equipment	35	NA	2.9	0.3	8.7	0.7	3.3	12.0	10.2	NA	4.6	1.1	NA	1.7
Building and repairing ships and boats	351	NA	2.7	0.3	NA	0.5	NA	1.0	NA	NA	1.5	0.1	NA	0.0
Aircraft and spacecraft	353	NA	0.1	NA	NA	0.0	NA	10.8	9.7	NA	2.7	0.9	NA	NA
Railroad and other transportation equipment, nec	352+359	NA	0.0	NA	NA	0.2	NA	0.2	0.5	NA	0.4	0.1	NA	1.6
Furniture, manufacturing, nec	36	1.8	0.5	0.6	NA	0.6	0.7	0.2	NA	NA	0.3	0.1	0.6	0.5
Recycling	37	0.0	0.1	0.1	NA	0.0	0.0	0.0	NA	NA	0.0	0.0	0.0	0.0
Electricity, gas, and water	40-41	NA	2.2	6.0	0.0	0.1	0.2	0.2	NA	2.5	0.0	0.0	16.2	0.2
Construction	45	NA	1.4	1.7	0.2	0.1	0.4	0.1	NA	1.3	0.0	0.1	0.1	0.1
Services	50-99	43.6	40.9	57.2	31.5	13.0	34.8	24.7	32.3	7.3	85.8	26.7	36.3	7.3
Wholesale and retail trade, repairs	50-52	6.7	2.9	2.2	0.0	0.5	2.2	0.5	NA	NA	0.0	6.7	5.2	0.3
Hotels and restaurants	55	NA	0.0	0.0	0.0	0.0	0.0	NA	NA	NA	0.0	0.0	NA	0.0
Transport, storage, and communication	60-64	NA	3.6	13.5	1.4	0.3	4.1	9.0	NA	NA	0.2	1.0	4.7	1.3
Financial intermediation	65-67	NA	4.6	14.4	0.0	0.1	5.7	3.1	0.5	NA	0.0	2.1	22.0	0.6
Real estate, renting, and business activities	70-74	36.8	29.7	26.0	29.7	12.1	22.2	11.9	NA	NA	84.6	15.6	NA	3.8
Computer and related activities	72	16.6	15.4	10.8	1.5	3.7	13.9	9.4	14.2	NA	0.3	2.0	NA	3.0
Software consultancy and supply	722	NA	13.7	9.3	1.2	0.4	NA	NA	9.9	NA	0.2	0.4	NA	NA
Other computer and related activities, nec	72 (minus 722)	NA	1.8	1.6	0.3	3.4	NA	NA	4.3	NA	0.1	1.6	NA	NA
R&D	73	6.4	4.0	1.7	25.4	2.3	7.5	2.5	6.9	NA	82.0	9.5	NA	0.5

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## Share of business expenditures for R&amp;D, by industry and selected country/economy: 2007–10

(Percent)

Industry	ISIC	New Zealand		Slovak Republic			United Kingdom		United States <sup>a</sup>		Russian Federation	South		
		2007	2008	2008	2009	2008	2008	2008	2008	2009	2009	Singapore	Africa	Taiwan
Other business activities	74	13.8	10.3	13.4	2.8	5.8	0.8	NA	NA	NA	2.3	3.7	NA	0.4
Community, social, and personal services	75–99	NA	0.1	1.1	0.4	0.1	0.6	0.2	NA	NA	1.0	1.3	4.4	1.1
All other industries	–	NA	12.3	0.5	1.0	0.9	0.5	1.2	NA	4.9	2.2	0.0	8.5	0.0

NA = not available; nec = not elsewhere classified

ISIC = International Standard Industrial Classification, Rev. 3; OECD = Organisation for Economic Co-operation and Development

<sup>a</sup>Source data for U.S. business R&D in this figure are preliminary (NSF 2010a); final statistics were used for other business R&D analyses in Chapter 4.

NOTES: Data years are in parentheses. Because OECD and National Science Foundation analysts adjust country data to achieve internationally comparable estimates, these data may differ from individual countries' survey estimates. Detail may not sum to total.

SOURCE: OECD, Analytical Business Enterprise R&D (ANBERD)-Statistical Analysis Database (STAN)-R&D Expenditure in Industry, [http://www.oecd.org/document/17/0,3746,en\\_2649\\_34451\\_1822033\\_1\\_1\\_1,00.html](http://www.oecd.org/document/17/0,3746,en_2649_34451_1822033_1_1_1,00.html), accessed July 27, 2011, and NSF Business R&D and Innovation Survey: 2008.*Science and Engineering Indicators 2012*